Recognizing, Understanding, and Managing Drought Conditions on Grazing Lands

Drought is a major factor in grazing land management. Drought is not a chance occurrence; it is a natural phenomenon. It is not a question of whether drought will occur, but when and how severe. A true drought has been defined as a prolonged period during which annual precipitation is less than 75 percent of the average yearly rainfall. Poor distribution of precipitation in a single year, or less than average precipitation in successive years, can also cause drought conditions.

Drought causes long-term effects and recovery is a long-term process. To manage successfully under the constant threat of drought, a good grazing management plan with a drought component should be developed during the conservation planning process. A basic understanding of the potential capabilities and limitations of the grazing land resources is fundamental to sound management. The plan can guide the grazing land manager through both short and prolonged periods of drought. If drought planning is not incorporated during conservation planning, health of natural resources, plants, soil, water, air, and animals, may unnecessarily suffer.

Impacts to Grazing Lands Associated with Drought

1. Loss of vegetative cover that results in:
    a. Increased runoff and erosion
    b. Reduction of average carrying capacity
    c. Potential reduction in water quality
    d. Reduced quality of wildlife habitat
2. Increase in undesirable plants
3. Increased potential of poisonous plant consumption by stock
4. Economic loss (reduced income and increased costs)
5. Loss of herd genetics through livestock sales

Before, During, and After Drought

1. Factors to know before drought occurs:

a. Knowledge of temperature, moisture, and growth relationships of plants
b. Knowledge of normal climatic variations
c. Knowledge of the relationship between maintaining livestock numbers with supplemental feed versus reducing livestock numbers
d. Proper grazing management prior to drought improves plant vigor and moderates the effects of drought
e. Stocking rate is the most important tool, especially under drought conditions

2. What to do when planning for drought:
    a. View drought as a normal consideration during grazing management planning, rather than a short-term catastrophic event
    b. Develop a drought management component of the overall conservation plan
    c. Plan for the production of emergency forage sources
    d. Maintain flexible herd composition in order to adjust during drought
    e. Establish key points in time and forage production cycle when management decisions must be made
    f. Consider enterprise diversity to reduce risks and to offset grazing income losses
3. What to do during the drought:
    a. Make and implement decisions early to avoid crisis decisions
    b. Make timely decisions on adjustments to balance livestock needs with available forage
    c. Monitor forage growth conditions and make necessary livestock reduction decisions
    d. Utilize emergency forages
4. What to do after the drought:
    a. Realize forage plant ability to recover from drought is related to vigor before and during drought
    b. Resist temptation to increase livestock numbers immediately following drought
    c. Adjust length of recovery period depending upon drought severity and climatic conditions following the drought